

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/003755

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.⁷ C07D417/04, A61K31/426, 31/427, 31/428, 31/4439, 31/454, 45/00, A61P1/16, 11/00, 13/12, 17/14, 27/02, 43/00, C07D277/24, 417/06, 417/14//A61K7/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.⁷ C07D401/00-421/14, A61K31/00-31/80, 45/00-45/08, A61P1/00-43/00, C07D277/00-277/24, A61K7/00-7/50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MEDLINE (STN), EMBASE (STN), BIOSIS (STN), BIOTECHABS (STN), Caplus (STN), REGISTRY (STN), JSTPLUS (JOIS), JMEDPLUS (JOIS), WPI (DIALOG)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2003-524010 A (Smithkline Beecham PLC), 12 August, 2003 (12.08.03), & WO 01/62756 A1 & AU 200133918 A & NO 200203953 A & EP 1257543 A1 & KR 2002073597 A & CZ 200202852 A3 & HU 200204514 A & CN 1404478 A & US 2003/0166633 A1 & ZA 200206642 A & MX 2002008082 A1 & NZ 520753 A & US 2004-0220230 A1	1-12
A	WO 03/087304 A1 (BIOGEN, INC.), 23 October, 2003 (23.10.03), & AU 2003228446 A1 & EP 1499308 A2 & KR 2004094908 A & NO 200404779 A	1-12

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

- A- document defining the general state of the art which is not considered to be of particular relevance
- E- earlier application or patent but published on or after the international filing date
- L- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- O- document referring to an oral disclosure, use, exhibition or other means
- P- document published prior to the international filing date but later than the priority date claimed

- T- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- X- document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- Y- document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- &- document member of the same patent family

Date of the actual completion of the international search
26 May, 2005 (26.05.05)

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14 June, 2005 (14.06.05)

Name and mailing address of the ISA/
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INTERNATIONAL SEARCH REPORT

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03/042207 A1 (SMITHKLINE BEECHAM CORP.), 22 May, 2003 (22.05.03), & EP 1444227 A1 & AU 2002356620 A1 & US 2004/0266842 A1 & JP 2005-513018 A	1-12
A	WO 02/076494 A2 (BIOPHARM GESELLSCHAFT ZUR BIOTECHNOLOGISCHEN ENTWICKELUNG VON PHARMAKA MBH), 03 October, 2002 (03.10.02), & EP 1372698 A2 & AU 2002257703 A1 & US 2004/0097456 A1 & JP 2004-525930 A	1-11
A	WO 03/080592 A1 (Sumitomo Chemical Co., Ltd.), 02 October, 2003 (02.10.03), & JP 2004-175780 A & AU 2003220931 A1	1-11
A	SOMA, T. et al., Analysis of Apoptotic Cell Death in Human Hair Follicles In Vivo and In Vitro. J. Invest. Dermatol., 1998, 111, pages 948 to 954	1-11
A	FOITZIK, K. et al., Control of murine hair follicle regeneration (catagen) by TGF- β 1 in vivo. FASEB J., 2000, 14, pages 752 to 760	1-11

With respect to claims 10 and 11

With respect to the subject matters of claims 10 and 11, the active ingredient is defined only as an ALK 5 inhibitor.

However, it is not obvious even to persons skilled in the art that what chemical structure enables a compound to have ALK 5 inhibitory activity. The mere statement that the active ingredient is an ALK 5 inhibitor is hence unclear as to what compound the subject matters contain as the active ingredient.

In view of the statements in the description, ones described as those corresponding to the ALK 5 inhibitor are limited to those containing the compounds of claims 1-6 as an active ingredient. There is no statement on the case where a compound having another chemical structure and ALK 5 inhibitory activity is contained as the active ingredient. Consequently, it is not considered that the description includes a statement that such a case produces the same activity as those disclosed in the description.

Therefore, the statements in claims 10 and 11 make the subject matters of these claims unclear. It cannot be said that such statements in the description are clear and sufficient to such a degree that persons skilled in the art can practice the subject matters of claims 10 and 11. The statements do not sufficiently support these claims (Articles 5 and 6 of the PCT).

The statements in the description of this application lack a support to the subject matters of these claims. It should hence be noted that in preparing an international search report, a search was made through prior-art documents for the case where the active ingredient is limited to the compounds of claims 1-6.